

**WHAT IS CLAIMED IS:**

1. A method for fabricating an optical fiber block using silicon-glass anodic bonding technique, in which a cover formed from glass is bonded onto a substrate, the top 5 of which is provided with one or more grooves, the method comprising the steps of:
  - heating the cover to a predetermined temperature; and
  - applying an electric field so that electrostatic attraction is generated in the interface of the cover and the substrate in the state in which the heated cover is being seated on the top of the substrate, thereby bonding the cover and the substrate.
- 10 2. The method according to claim 1, wherein in the heating step, an optical fiber is seated into each of the grooves of the substrate, and the top of the substrate is covered with the cover.
- 15 3. The method according to claim 1, wherein the bonding step is performed in a state in which a predetermined level of weight is being applied so that the substrate and the cover are brought into uniform and close contact with each other.
- 20 4. The method according to claim 1, wherein the bonding step is performed in a vacuum environment.
5. The method according to claim 1, wherein the cover is formed from Pyrex glass.